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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/528,028	03/17/2000	Min-Seok Jang	0630-1060P	4328

7590 05/22/2003

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EXAMINER

HOANG, PHUONG N

ART UNIT	PAPER NUMBER
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2126

DATE MAILED: 05/22/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/528,028

Applicant(s)

JANG, MIN-SEOK

Examiner

Phuong N. Hoang

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 3, 6 - 8, 11-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 3, 6 - 8, 11-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 4-3-03 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 – 3, 8, 11 – 13, 15 - 21, 23 – 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art (APA) and in view of Joel A. Farrell, U.S. patent no. 5,247,675.

As to claim 17, the APA teaches event transfer system (p. 2, lines 19 – 20), each of a plurality of tasks (tasks 1- 4, p. 2) call a kernel system function of receiving an event with respect to one event in a multi-tasking environment (calls the kernel system function of receiving an event, p. 3 lines 7 – 15), blocking execution of said each of the tasks (tasks 3 and 4 are blocked, p. 3 lines 15 – 18), inserted into a waiting-list when no event is provided to the tasks (since the first task transfer no event yet, Queued into the waiting-list, p. 3 lines 10 – 18).

However, the APA does not teach the tasks are inserted into a waiting list in a priority order.

Farrell teaches the tasks are inserted into a waiting list (run list 32, col. 4 lines 27 – col. 5 line 46) in a priority order (threads are arranged in priority order, col. 5 lines 39 – 45).

It would have been obvious to apply the teaching of Farrell to the APA's system because it optimizes the threads organization and influences execution the schedule.

As to claim 18, Farrell teaches accessing the task having the highest priority from the waiting-list of event when the event is provided (select each thread's priority highest priority, col. 4 lines 37 – 60), and executing the accessed task (execution, col. 4 lines 37 – 60).

As to claim 19, the APA teaches checking whether there is an event value exit when the kernel system function of receiving the event starts (it checks and knows that the first task transfers no event yet, p. 3 lines 8 – 14).

As to claim 20, the APA as modified by Farell teaches as a result of checking, the current task is blocked and queued into the waiting list (tasks 2 – 4 are blocked and queued into the waiting list, p.3 lines 1 – 18) according to the priority order.

As to claim 21, the APA teaches if the event value exists, the event value is obtained from the event control block buffer (receive event from the control block buffer, p. 3 lines 1 – 2), and as modified by the APA, the task is executing by sort of the event (execution, col. 4 lines 37 – 60).

As to claim 23, Farrell teaches when it is checked whether the waiting task exists (determines if the thread is already on the run list, col. 6 lines 15 – 20), and transferring an event value to the head task of the waiting-list when the checking indicates that the waiting task exists in the waiting-list (the current thread is a highest priority on the run list, col. 5 lines 15 – 47).

As to claim 24, Farrell teaches the head task is inserted into the ready list (it is unblocked and unsuspended for ready to run, col. 5 lines 20 – 25), and the routine by sort of the event is executed (executing, col. 5 lines 20 – 30).

As to claim 1, see claim 1 and 18 above for rejection.

As to claim 2, Farrell teaches the task having the highest priority is arranged at the most leading portion (threads are arranged in priority order on the run list 32, col. 4 lines 27 – col. 5 line 46).

As to claim 3, see claim 19 above.

As to claim 8, see claim 23 above for checking step.

As to claim 11, see claim 24 above.

As to claim 12, see claim 21 above.

As to claim 13, see claim 20 above.

As to claim 15, the APA teaches when the waiting task does not exist, an event value is stored in the event control block (queued into the event control block, p. 3 lines 10 –15).

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As to claim 16, Farrell teaches when the waiting task exists, an event value is transferred to the head task (the current thread is a highest priority on the run list, col. 5 lines 15 – 47).

Claims 6, 7, 14, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art (APA), in view of Joel A. Farrell, U.S. patent no. 5,247,675, and further in view of Thomas E. Saulpaugh, U.S. patent no. 5,734,903.

As to claim 22, 6 and 14, Saulpaugh teaches event ID (message ID, col. 23 lines 45 – 55) generating error code in case of invalidity (invalid ID error, col. 23 lines 45 – 55).

It would have been obvious to apply the teaching of Saulpaugh to the APA's system because it only transfers the valid data.

As to claim 7, Saulpaugh teaches timeout option (timeout, col. 23, lines 1 – 3).

It would have been obvious to apply the teaching of Saulpaugh to the APA's system because the scheduler knows when to stop running.

Response to Arguments

Applicant's arguments filed on 4/3/03 have been fully considered but they are not persuasive.

Applicant argued that the run list queues only those threads with the highest priority from each dispatch class (page 2 of remarks), while applicant's waiting list stores all the tasks.

In order to run, the run list queues only the highest priority order task of all the tasks from each dispatch class; but it stores all the tasks (each dispatch class (DCD) also identifies high and low pointers which point to the highest and lowest priority threads with the dispatch class, col. 4 lines 65 – col. 5 lines 50).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong N. Hoang whose telephone number is (703)

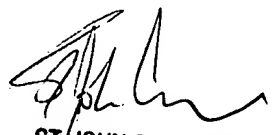
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605-4239. The examiner can normally be reached on Monday - Friday 9:00 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (703)305-8498. The fax phone numbers for the organization where this application or proceeding is assigned are (703)746-7239 for regular communications and (703)746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)746-7140.

ph
May 19, 2003



ST. JOHN COURTENAY III
PRIMARY EXAMINER